ABSTRACT

Disclosed is a method for efficiently separating a sapphire wafer serving as a substrate, provided with semiconductor elements formed thereon, into unit chips by scribing the sapphire wafer, after grinding and lapping a rear surface of the sapphire wafer and then dry-etching the sapphire wafer. The method includes the steps of (a) grinding a rear surface of the sapphire wafer so that the sapphire wafer has a designated thickness; (b) lapping the rear surface of the ground sapphire wafer so that the sapphire wafer has a designated thickness; (c) dry-etching the rear surface of the lapped sapphire wafer so that the sapphire wafer has a uniform thickness; and (d) scribing the rear surface of the dry-etched sapphire wafer. The method prevents defects in the shape of the obtained chips and reduces the quantity of abrasion of an expensive diamond tip.